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ABSTRACT

This paper reports the findings of a comparative study of the content of electronic exchanges among members of learning communities to determine what kinds of online dialogue differences, if any, exist. The virtual learning communities compared are two cohorts within the same professional preparation program for teachers aspiring to become school leaders. The content area and instructor are the same for both cohorts; the significant variable is the mode of instructional delivery. One cohort received nearly all instruction through a distance learning program. The other cohort meets together weekly and uses online activities for approximately 30 percent of instructional delivery. Comparative data used are online messages generated during the first semester of both programs in which leadership was the central focus. (Contains 23 references.) (Author/AEF)

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Using Technology to Enhance Understanding of Leadership

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Abstract

This paper reports the findings of a comparative study of the content of electronic exchanges among members of learning communities to determine what kinds of online dialogue differences--if any--exist. The virtual learning communities compared are two cohorts within the same professional preparation program for teachers aspiring to become school leaders. The content area and instructor are the same for both cohorts; the significant variable is the mode of instructional delivery. One cohort received nearly all instruction through a distance-learning program. The other cohort meets together weekly and uses online activities for approximately 30 percent of instructional delivery. Comparative data used are online messages generated during the first semester of both programs in which leadership was the central focus.

Review of the Literature

Nearly 60% of the nation's higher educational institutions use information technology as a mode of instructional delivery (Lewis, Snow, Farris, & Levin, 1999). As universities increasingly use online learning networks, it becomes important to understand how online interactions support academic success (Cox, 1999). Online environments can enhance learning by shifting from a teacher-centered model in which the instructor is the source of knowledge to a learner-centered model in which peer support, interaction, and collaboration are emphasized (Beller & Or, 1998; Harasim, 1990; Lebow, 1993). Participants communicating within virtual environments use asynchronous dialogue to reflect, debate, critique, give feedback, question, answer, and engage in multiple other communicative behaviors (Henri, 1992; Mason, 1994). Because individuals interacting within a virtual setting share a range of intellectual responses similar to those in other modes of communication (Paccagnella, 1997), online learning activities have potential to provide rich opportunities for learning.

Skeptics of cyber-learning warn that it offers a potentially false or artificial sense of learning that diminishes individual capacity and leads to fragmentation (Heim, 1993). Proponents of instructional delivery through technology maintain that computers promote learning because ample time for quality feedback is available, provide a buffer for those less adept in face-to-face communications, and enhance spontaneity (Bresler, 1990). Some findings suggest that learning in virtual communities increases creative flow and collaborative possibilities (Green, 1996; Knox-Quinn, 1993). Because research about the implementation of successful online environments for learning is a new and evolving area (Cox, 1999), many questions remain unanswered.

The ALPS Program: Cohorts in Professional Preparation

The Administrative Leadership and Policy Studies (ALPS) division within the School of Education at the University of Colorado at Denver (UCD) is authorized by the State Board of Education to offer training for aspiring school principals and administrators (Colorado Department of Education [CDE], 1997). Following the state adoption of professional standards in 1994, the ALPS faculty progressively revised its leadership education program into a problem-based (Ford, Martin, Muth, & Steinbrecher, 1997; Muth, forthcoming), active-learning (Muth, 1999), portfolio-assessed (Muth, Murphy, Martin, & Sanders, 1996) model. The leadership preparation program transformed from a series of on-campus courses into unique off-campus cohorts developed through school district partnerships. Because most ALPS cohorts are developed in partnership with local school districts, unique problems of practice emerge as potential projects and learning events (Martin, Ford, Murphy, & Muth, 1998). Partnership cohort sessions are held at district sites and jointly taught by university professors and administrative practitioners.

As a standards-driven program (Ford, Martin, Murphy, & Muth, 1996; Murphy, Martin, & Muth, 1994), the goal is to endorse graduates as competent professionals ready to assume roles as school leaders. The program is a sequence of four learning domains that concentrate on specific areas of school administration and connect to concurrent field internships. Individual and group activities within the domains center on four broad topics: (a)leadership, (b) school environment, (c) supervision of curriculum and instruction, and (d) school improvement. While each of the domains has an integrated set of field activities to connect content to practice, a 135 clock-hour

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intensive internship provides additional immersion in practice and experience as an administrator. Thus, content learning is balanced with field experiences so that students gain clinical skill to recognize and solve problems of professional practice.

The adoption of a sophisticated online communication system by the UCD School of Education opened myriad opportunities to integrate online instruction and learning into the school's licensing programs. The FirstClass Client e-mail and conferencing system, sold by SoftArc and dubbed Colorado Educators Online (CEO), provides statewide service to the school, area districts, and educational associations. CEO "permits synchronous as well as asynchronous communications, easy file sharing, and Internet access" (Muth, 2000, p. 60) and allows creation of discussion sites known as conferences. Within a cohort conference, participants can post questions, comments, and responses viewed by all conference members. Subconferences facilitate completion of special online projects.

Same Program, Two Different Cohorts

The two cohorts within the ALPS licensing program used in this comparative study are uniquely different. Common elements made it possible to link the two case studies for purposes of comparison of electronic exchanges: The same instructor taught the two cohorts during the same domain of the ALPS program. Within each of the CEO cohort conferences, it was easy to identity for analysis students' online messages within the leadership subconference. Hence, the student online exchanges within each of the cohort leadership subconferences in the CEO became the main data source link for this comparison

Virtual Learning Community: Distance Learning Cohort

After intensive curriculum refinement, the ALPS division launched its first DL principal licensing cohort for students who live in areas of Colorado remote from any graduate licensing programs. Participants met together as a united cohort group only twice. The first cohort meeting was an eight-day orientation on the UCD campus in June 1999. An important reason for the face-to-face interactions was to "build a shared culture for a strong cohort and effective cluster groups" (Muth, 2000, p. 65). During the orientation, students selected membership to small support (cluster) groups that were determined by geographic locale and that met at the discretion of the members throughout the yearlong program. Significant blocks of time during the orientation session were used to provide students with instruction and practice in using CEO (Muth, 2000). The DL cohort returned to UCD in July 2000 for its second cohort-wide session. During those two days, students participated in reviews for the required state examination, portfolio defenses, program evaluation, and celebration ceremonies for the closing of the cohort.

Almost all instruction and group discussion in the DL cohort was conducted electronically through CEO. Sources of online interaction data available include (a) open cohort conference discussions and (b) chat room discussions. Personal communications not sent to the cohort's conference were not accessible. Additionally, course syllabi and calendars, student responses to mid-program telephone interviews, and student reflections recorded during exit interviews provide additional data sources.

Onsite Learning Community: Empowerment for Change in Urban Schools Cohort

A university-district partnership was formed in a community within a short distance of downtown Denver. Like other urban school districts, the district faces multiple challenges beyond alleviating its current shortage of potential school principals and administrators: (a) state-mandated accountability measures, (b) political and public scrutiny of student scores and school report cards, (c) limited resources for implementing school renewal measures, and (d) a poorly developed, economically-stressed community support base. The name for this learning cohort, Empowerment for Change in Urban Schools, embodies the vision of its cohort leader for expanding leadership education and skills development into forms of collaborative leadership processes (Napier & Lowry, 1999).

As in other ALPS university-district partnership cohorts, approximately one-third of the curriculum instruction in the ECUS cohort is delivered online. Consistent with the DL cohort, sources of online interaction data in the ECUS cohort conference include the open cohort conference discussions. Data collected through review of artifacts, responses to a questionnaire about CEO use, and researcher observation of cohort sessions provide additional data sources. A larger case study of the ECUS cohort is nearing the close of a year of data collection.

Strategies for Comparative Analysis

Since the two cohorts were in the same licensure program and lead by the same instructor, we assumed that the content and instructional activities within the leadership domains of the distance-learning cohort and the onsite cohort were similar in message substance. Therefore, we developed a coding system to analyze the posted messages in the subconference labeled by the course number for the leadership domain. Both the coding and analyses were

conducted manually. Where needed for further understanding, analysis also included review of cohort syllabi and assignment calendars, observation field notes of the ECUS cohort, and student responses to questionnaires.

Coding Message Types

The display format of messages within CEO allows a viewer to discern quickly the differences between threaded discussions (groups of response messages linked to an initiated message by a common subject heading) and non-responded messages (to which no written reply was sent to the conference). Each of us began at the first message posted in the leadership subconference and classified messages either as a non-responded message (M) or as a group of messages within a threaded discussion (T). All files within a threaded discussion were chunked together and coded as one threaded discussion. Messages within each category were numbered in chronological order by date beginning with the first message to appear in the conference. For messages that evolved into threaded discussions, we classified the first message as an initiated message (I). All response messages, except the last in the series, were coded in one of three ways: R for a general response, Ri for a response directed to the initiator message, or Rr for a response to a respondent message within the threaded discussion. The last message in the threaded discussion was coded similarly to the response messages: C for the last message, Ci for a closing message that referred to the initiator message, and Cr for a closing message that referred to a respondent message. Hence, the coding of message types within threaded discussions shows the connecting patterns of the response messages.

Coding Message Content

Two researcher assumptions about the online communication guided this comparative inquiry and defined the message content codes created and used. Message content codes used to identify specific references within the body of posted messages were developed based upon the following assumptions. First, the predominant content of instructor-generated messages was about online assignments. The instructor used CEO to clarify or redirect the assignment or offer suggestions for action. Despite training for both cohorts in the use of the university's electronic communication system (CEO), the instructor assisted students in overcoming uncertainty or confusion about using CEO during the early days of both cohorts. Thus, content codes were developed to flag content statements related to assignments, suggestions for action, and technical support. Second, cohort use of online communication to support student learning about leadership was different in the two cohorts. Message content codes were developed to identify references to leadership, self-disclosure statements (e.g., statements that begin with the words *I agree, I disagree, I believe, I think*), and professional responsibilities or experiences.

Table 1. Coding Key

Message Type	
Code	Description
I	Initiated message
R	Response (in general)
Ri	Response to initiator message
Rr	Response to respondent message
C	Close of threaded discussion (last message)
Ci	Closed as response to initiator message
Cr	Closed as response to respondent message
Message Content	
Code	Description
a	Reference to assignment (clarification, redirection, reminder, wrap-up)
n	Suggestion for action
r	Reference to professional responsibilities and/or experiences
s	Self disclosure: I agree, I believe, I disagree, I feel, I found, I think
t	Reference to technical support and/or trouble
L	Reference to leadership theory and/or practice

A matrix for analysis of online messages was also developed. Dates of initiated messages and closing responses in threaded discussions were recorded in the matrix. Permission to analyze online messages was obtained from all participants in both cohorts prior to beginning analysis. Thus, the analysis matrix identifies the type and content of each message generated by all cohort participants so that comparisons of student engagement were possible. An ordered triple lists the number of initiated, response, and closing messages made by each individual

within each group of ten messages. A composite totaling all messages posted by each cohort member within the examined conference was included on the last page of the analysis matrix for each cohort.

Additional Message Content Analysis

As our analysis began to reflect marked differences in the type and content of messages, we realized that the use of electronic communication for instruction was not as similar between the two cohorts as we first thought. Needing clarification about the differences between the DL and ECUS syllabi, we asked the instructor if she had changed her online instructional strategies. We learned that she redesigned the online assignments in the ECUS cohort to encourage reflection and discussion in a cohort-wide online conferencing format. In the DL cohort, students were paired and thus shared their reflections and discussions in private messages, which were not available for review by fellow students in the cohort or for analysis by us. Therefore, we realized that our coding of only the posted messages in the leadership domain of the DL cohort failed to present a fair comparison. With this revelation, we analyzed student interactions within the five DL cluster group subconferences. Since cluster groups were created within geographic regions of the state as a way for students to support one another in face-to-face settings, we believed that a cluster group would provide opportunities for shared learning similar to those in the onsite cohort.

Comparative Findings: Some Surprises

A cursory scan of online exchanges within the leadership domain of the two conferences indicated that the two cohorts engaged in markedly different types of virtual communication during the beginning six months of each program. Between June and December 1999, only 57 messages (also called files) were posted in the leadership domain of the DL cohort. Thirty-three of the 57 (58%) messages were instructor-generated. Conversely, although the ECUS cohort met together as a group almost weekly from January to July 2000, the cohort generated a total of 159 messages in the leadership conference. Of those 159 entries, only 20 (13%) were posted by the instructor. An important reason for these variations is due to the differences between the CEO conference structures for the two cohorts. Most of the DL student exchanges for the leadership domain were housed in cluster group subconferences. Nonetheless, the data record strongly suggests that the online interaction within the leadership domain of the DL cohort was less interactive when compared to the online communication among members of the ECUS cohort.

Content of Instructor Messages

Data support our assumption that the predominant content within instructor-generated messages was about online assignments. Of the 33 DL messages posted by the instructor, 25 (78%) provided clarification, redirection, or reminders about assignments and 22 (67%) suggested action to be taken by students. Among the 20 ECUS messages initiated by the instructor, 13 (65%) referenced an assignment and 12 (60%) suggested student action. As the statistics show in Table 2 and Table 3, the instructor used CEO in both cohorts not only as an instructional tool, but also as a messaging system.

Table 2. Instructor Use of Online Messages for Explaining Assignments

Cohort Name	Number of instructor-posted messages	References to providing clarification, redirection, or reminders about work	Percentage
DL	33	25	78%
ECUS	20	13	65%

Table 3. Instructor Use of Online Messages to Suggest Action

Cohort Name	*Number of instructor-posted messages*	*References to suggestions for action by students*	*Percentage*
DL	33	22	67%
ECUS	20	12	60%

ECUS syllabus

A review of the ECUS syllabus indicated that the instructor explicitly described the purposes for integrating online activities into the onsite cohort curriculum.

> Traditionally, this domain has been facilitated in a face-to-face environment with some e-conferencing to supplement instruction. As part of an effort to increase accessibility to material away from the classroom and to leverage the advantages of face-to-face contact in the classroom time available, [the ALPS faculty] is converting more of the material into a computer-supported format. Thirty percent of the course material will be offered on-line, providing opportunity for small group discussions and individual reflection between face-to-face meetings . . . learning is both an individual and interactive process that involves identity development as well as interpersonal interaction . . . assignments [were organized] to provide extensive reading and study on one hand and intensive collaboration on the other. (Napier, 2000, p. 1)

The first e-conferencing assignment was presented verbally to the ECUS cohort during the second cohort session (January 31, 2000) and clarified during the third meeting (February 7, 2000). However, based upon a review of observational field notes and a search within the ECUS cohort conference, written directions for the first online assignment were not distributed during a cohort meeting or via an online message. Further, an interesting contradiction in our comparative findings emerged from analysis of the ECUS student comments on the recent questionnaire.

ECUS student reflections about the online assignment.

The student responses to a survey question about the online assignments in the leadership domain provided interesting contrasts in understanding. Nine of the 17 (53%) recalled that the task was to read assigned articles and books and write reactions and reflections generated by the readings. Five students either reported that they could not remember specifics about the assignments or they left the answer space blank. Another student wrote,

> I'm not sure that I really understood why the assignment was assigned. I thought it was more of an inner reflection. I did not feel comfortable expressing my thoughts or feelings with the group. I had not built any trust.

While time often diminishes recollection of details, the fact that 6 of the 17 (35%) students in the onsite cohort could not recall the assignment raises a concern about assignment clarity. Students may have asked the instructor individual questions about the online activity during cohort meetings. However, clarifications about this particular assignment do not appear to have been shared with the entire cohort either in class or online. The lack of written instructions for the first online activity is markedly out of character with the number of other assignment messages posted by the instructor.

An Unexpected Finding: Need for Technical Assistance

During analysis of instructor messages in both cohort conferences, we noticed an interesting finding that emerged concerning the need for technical assistance. Students enrolled in both the DL and ECUS cohorts received training in the use of the university's electronic communication system prior to beginning online activities. Members of the DL cohort received intense, hands-on opportunities to practice using CEO in the university's computer laboratories during the cohort's eight-day program orientation. Online training for the ECUS cohort included a visual-display presentation by a guest speaker during the cohort's second meeting and one-on-one assistance provided by both the instructor and peers during two of the subsequent class meetings in a middle-school media center. Despite training in the use of the communication system, data indicate that students in both cohorts reported technical difficulties and received guidance from the instructor throughout the entire timeframe examined.

References to technical support or trouble appeared in 27 of the 57 (47%) of DL cohort messages. Eleven of the message types were non-responded messages generated by the cohort instructor. Six message types were threaded discussions initiated by different students with only the instructor responding. Only two of the threaded discussions concerning technology in the DL conference were initiated by students and responded to by peers.

References to technical support or trouble appeared in 14 of the 159 (9%) of the ECUS cohort messages. Three of the instructor-generated non-responded messages link technical support to another assignment. Eight student references to uncertainty about CEO appeared within both non-responded messages and threaded discussions among students during the first two weeks of the assigned online activity. The last reference to technical trouble made by a student was found in a response to an instructor's message about completing an online assignment. In this instance, the student wrote that he was unable to participate in one of the online activities because the system was off-line when he tried to complete his work.

A comparison of the number of references made by students about having difficulty using the online communication system or to the instructor providing technical assistance leads to interesting questions. Statistics are provided in Table 4.

Table 4. Student Need for Technical Support

Cohort Name	Total number of messages	References to technical support or trouble	Percentage
DL	57	27	47%
ECUS	159	14	9%

We became intrigued: Does the fact that half the messages posted in the early weeks of the DL cohort suggest that the students were more dependent or needy than the students in the onsite cohort? Or does the small percentage of references to using CEO in the ECUS cohort mean that technical problems were handled in class? It may be tempting simply to assume from the statistics that the DL cohort experienced and reported greater difficulty using the online communication system than the ECUS cohort did. However, ECUS student responses to a recent questionnaire about using CEO suggest that learning the online communication system created problems for students in the onsite cohort as well.

ECUS student reflections about using CEO.

Eleven of the 17 (65%) respondents stated that they did not encounter major difficulties using CEO. The range of challenges for five other respondents included simply not being able to log-on because of an incorrect spelling of user name to needing additional training from the CEO administrator or a spouse. However, one student reported significant difficulty and did not engage in online activities until two weeks after the assignment had been made. Once she learned to use the electronic communication system, she participated as actively as the majority of her peers.

> I almost died learning CEO. It took several weeks to feel comfortable understanding and using the system. I first had to get hooked up to an Internet provider, then to a search engine to be able to use on my laptop. Then I had to load CEO First Class . . . [and] learn how to navigate around in the system. The class names were even foreign. I worked and worked until I became comfortable using the system.

Studnt Learning through Online Activities

Our quick scan of the data record (i.e., the number and types of messages in each leadership conference) suggested to us that participants in the ECUS cohort engaged in rich, dialogue-like exchanges within the leadership domain conference, which students in the DL cohort did not. DL students may have engaged in very similar discussions with another student in the cohort, but their exchanges occurred within private mailbox messages or subconferences. Thus, students in the DL cohort missed opportunities to share their learning and understanding with the group at-large.

References to leadership.

A review of the statistics shows how very different the contents of the messages are in each of the cohort conferences. The word "leadership" was used in 58 of the 139 (42%) ECUS student messages, but it appeared only 3 times in the 24 (13%) DL student messages. This finding both amazed and puzzled us. We purposefully selected the leadership domain conference in each cohort as the course for our comparative analysis, assuming that both cohorts followed a similar structure. We learned from the instructor that she observed the same phenomenon in the DL cohort leadership conference that we did. Thus, she purposefully made a dramatic change in the format of the online curriculum for the ECUS cohort in order to create a structure for sharing learning cohort-wide.

References to self-disclosure statements.

We measured the vitality of online communication by evidence of the number of times that students made self-disclosure statements in which they used the following phrases: *I agree, I believe, I disagree, I feel, I found, I support,* or *I think*. Self-disclosure statements appear in 110 of the 139 (79%) ECUS student messages and 14 of 24 (58%) DL student messages. An interesting observation is that only six instructor messages in the ECUS cohort contained self-disclosure statements. Conversely, the instructor used self-disclosure statements in 25 of her 33 (76%) messages in the DL cohort.

References to professional practice.

Additionally, data indicate that students in the ECUS cohort attempted to connect what they were learning in the licensure program to their professional responsibilities or experiences. Fifty-one of the 139 (37%) student messages include reflections in which professional responsibilities are mentioned. None of the student messages in the DL conference make a reference to professional responsibilities or experiences. A summary of findings is presented in Table 5.

Table 5. Student Learning through Online Activities

Cohort	Number of student-posted messages	References to leadership	Made self-disclosure statement	References to professional experiences
DL	24	3	14	0
ECUS	139	58	110	51

DL cluster groups.

The disparity between the leadership messages compelled us to look elsewhere in the DL cohort. Five cluster groups were formed during the orientation session of the DL cohort in June 1999 with the intent to build local communities of support for the geographically dispersed cohort members. An interesting finding is the incredibly wide range of student online interactions within the five cluster group subconferences during the entire yearlong program. The least active group posted only 35 messages while the most active one, known as WestSide, exchanged 344 messages. The other three cluster groups generated a total of 83, 67, and 64 files each. The range in quantity of exchanges among the five cluster groups poses interesting questions about group dynamics, which were not addressed in this inquiry. What is significant about this finding is that the WestSide cluster group was also the most social cluster group in the DL cohort. The intensity and volume of peer-to-peer interactions within the ECUS cohort and the WestSide cluster group suggest that peer-to-peer support and encouragement developed because of opportunities for face-to-face interaction. Analysis to date of the interaction within the DL cluster group subconferences shows a greater number of student exchanges than in the leadership conference. Although the messages within the DL leadership conference were somewhat stagnant, the richness of cohort activities became apparent within cluster group subconferences. References to leadership practices, professional growth, and the challenges of balancing the licensure program requirements with professional responsibilities were mentioned in the subconferences.

ECUS student reflections about online learning.

Statistical analysis provides only one perspective of student reaction to the required e-conferencing activities. Thus, we returned to the ECUS questionnaire for more clarity of findings. Only 7 of the 17(42%) student responses to the recent ECUS questionnaire provided positive assessment of the online assignment. One of those students wrote a particularly enthusiastic evaluation.

> I personally love this type of assignment. I believe that [it] is appropriate for the graduate level and gets people out of the "regurgitation of information" mode. As I observe others in the cohort, I detect that many are not dedicated to this method of learning . . . This assignment, however, [prodded us] to think deeply and investigate, evaluate and speculate.

An interesting observation about this student in cohort meetings is that over the past 10 months he rarely participated in face-to-face discussions. Like other more reticent students, he seems to prefer online sharing.

> I appreciate the convenience of online discussions . . . the discussion topics and the venue allows people to be more introspective and share personally. I think there is a huge potential for online components.

Other students who enjoyed doing the online leadership activity wrote:

> Definitely a new and fresh approach! I like [online activities] because you can sit at home and have time to reflect and write your thoughts.

> I enjoyed the technological side of this assignment. Using a computer and the Internet to discuss class topics is very fascinating. Doing this kind of assignment, however, made me nervous because I had not explored myself as a true leader.

However, almost half of the ECUS cohort did not share the same reaction to being assigned online dialogue activities. Five students reported feeling overwhelmed, perplexed, worried, and even threatened about writing self-disclosing reflections.

> I struggled with this assignment because I truly had not seen myself as a leader. I was apprehensive to put those words online for all to read.

> I felt threatened because I was asked to expose my inner thoughts to 20 people that I did not know.

Approximately one-third of the respondents reported that they did not enjoy the online conferencing for other reasons. It was frustrating for some when peers did not respond to the messages they initiated in the hopes of beginning threaded discussions. Others voiced a preference for face-to-face discussions in which there is increased potential for peer interaction.

> [Not receiving responses to posted messages] affected me by making me feel that what I had to say was not important. I also began to feel like "why should I even do this if it is not even read or responded to by anyone."

> [Using CEO for assignments] is a nice up-to-date way of trading ideas and work. I would like to see it used more, but nothing beats face-to-face communication and learning.

Comparison of student engagement

A line-by-line analysis of type and content of student messages in each of the leadership conferences suggests that many students never fully participated. Analysis of student responses in the DL leadership conference matrix indicates that four students never posted a message there during the entire program. Analysis of the ECUS matrix shows that many students were hesitant during the early weeks to share self-disclosures with their peers. One student did not engage in the process until three weeks after the assignment was made. Among the four messages he posted in the conference, only one contains a self-disclosure statement. Another student did not post any messages until almost five weeks after the assignment was made. Of the seven messages authored by this student, only four contain self-disclosure statements.

Conclusions and Possible Questions for Discussion

Comparative analyses of the online messages in both conferences strongly suggest that neither cohort spent time establishing ground rules for online behavior. What emerged during the process of online communication worked for some students, but not for others. Thus, the use of the online conferencing system as an instructional tool differed significantly between the two principal licensing cohorts.

The DL cohort used the CEO system more as a communication tool for discussion of logistical issues related to their learning and assignments rather than as a platform for academic discourse. Only one of the five cluster groups within the DL cohort sustained rich online communication throughout the entire program. Perhaps one reason for the online connectedness of this DL cluster group was the fact that the students initiated and sustained regular face-to-face meetings to support one another.

The onsite ECUS cohort used the CEO system as an instructional tool because the purpose for online activities was clearly delineated in the leadership course syllabus. Confusion about the first assignment arose for two reasons: (a) the assignment was not written and (b) some students had difficulties learning to use CEO during the early weeks of the program. Nonetheless, the majority of the ECUS students posted personal reflections and engaged in rich, peer-to-peer online discourse about their assigned readings and related their learning to professional responsibilities. In some ways their online dialogue rivaled discussions observed during weekly cohort meetings.

Because our study did not compare truly similar online learning environments or include large numbers of students, our findings are limited. Results of our analysis of the content of student messages provide important information to assist the ALPS faculty in the design of future distance-learning programs and online assignments within onsite cohorts. Student responses to the questionnaire about use of CEO in the professional preparation program contain some surprising revelations that can further assist in program modification. Adult learning styles

vary tremendously and thus accommodations need to be made so students have ready access to technical assistance in the use of information technology during the early weeks of a new program. Further, cohort norms need to be established early regarding participation in online activities.

Findings in our comparative study support the literature base and empirical evidence from other studies about online communication. A greater value is that our findings generated questions for discussion about the effectiveness of online learning activities.

Question One: Student Engagement in Online Activities

Data from our comparative study show that not all students in the two cohorts readily embraced the idea of actively participating in asynchronous online dialogue. While some students in the ECUS cohort reported enjoying online activities, their peers revealed reticence for sharing personal views and reflections in the public domain of an online conference. Several students reported having technical difficulties during the early weeks of both programs. Further, three ECUS students posted three or fewer messages among a total of 139 student files, and four of the students in the DL cohort never posted a message within the leadership domain conference. A stated purpose for assigning online activities is to enhance collaborative learning. Therefore, if student participation is important for learning, then what type of monitoring does an instructor need to use to assess student online engagement?

Question Two: Online Conferencing and Student Learning Styles

In face-to-face classroom situations, some students are very willing to share their thoughts and ideas openly as fuel for discussion and debate among peers. Other students prefer to listen and observe classroom exchanges and reflect about what was said. An instructor can notice facial expressions and body language to discern if quiet students are engaged in the classroom activity and even elicit responses through direct questioning. In a virtual environment, however, an instructor cannot always discern if "quiet" students are actively participating. The fact that a message has been opened does not mean that it was read. Therefore, what strategies can an instructor use to monitor active student participation in online activities?

While our comparative study of message content was intended to assist the ALPS faculty in the design of the next distance-learning cohort and the integration of more online activities in onsite cohorts, our findings suggest questions for discussion with larger audiences. We begin that larger dialogue with this presentation.

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